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Cephaloziella elegans (Heeg) K. Müller not Schiffn.
Odontoschisma elongatum (Lindb.) Evans
Cololejeunea setiloba Evans
Rectolejeunea Brittoniae Evans
Frullania cobrensis Gottsche
Frullania Rappii Evans

CHANGES IN NOMENCLATURE

JUNGERMANNIACEAE

Marsupella robusta (DeNot.) Evans is now *M. aquatica* (Lindenb.) Schiffn.
Lophozia Baueriana Schiffn. is now *L. Hatcheri* (Evans) Steph.
Lophozia Lyoni (Tayl.) Steph. is now *L. quinquedentata* (Huds.) Cogn.
Cephalozia lunulaefolia Dumort. is now *C. media* Lindb.
Cephaloziella Starkii (Nees) Schiffn. is now *C. byssacea* (Roth) Warnst.
Cheilolejeunea pililoba (Spruce) Evans is now *Lejeunea pililoba* Spruce

[Address Mrs. Annie Morrill Smith, 78 Orange Street, Brooklyn, N. Y., for copies of this Supplement—Cost, one cent each.]

NEW AND INTERESTING LICHENS FROM THE STATE OF WASHINGTON

G. K. MERRILL

[*Presented in brief by Dr. Alexander W. Evans at S. M. S. Meeting, Brooklyn Botanic Garden, May 24, 1913.*]

The Lichens noticed in this paper were collected by Mr. A. S. Foster, who has been an assiduous collector of Lichens and Mosses for a number of years, and who possesses an unsurpassed field knowledge of these humble plants for the regions of his investigations. Only a few of the noteworthy and novel forms discovered by him are comprehended in the present treatment.

COLLEMA MELAENUM Ach. Lich. Univ., p. 636.

On rocks, alt. 3,500 ft., Republic, Wash., No. 2361.

Plants without apothecia, but determination certain.

I know of no other record for the United States.

CLADONIA DEFORMIS forma GONECHA (Ach.) Nyl. Syn. I., p. 222.

On humus over rocks, Republic, Wash., No. 2362.

Characterized by more or less turgid, scarcely fissured podetia, the scyphi lacerated. The cortex of the species is cartilaginous below and pulverulent above, in the form almost wholly pulverulent. The colors range from creamy ochroleucous to light blue-green. Very seldom found with apothecia in American specimens. Elsewhere found in the Klondike region, Lake O'Hara, B. C., and Pipestone Valley, Atha., all collected by Prof. J. Macoun. Wainio includes the form in his modification *extensa* (Hoffm.) Wain., but the plant clearly deserves separate recognition.

UMBILICARIA (*Gyrophora*) PROBOSCIDEA forma EXASPERATA Ach. Method., p. 105.

Thallus plicate-rugose, the plicæ erect, 1–2 mm. in height, more or less reticulately disposed, the crests roughened. Apothecia and spores of the species.

On rocks, alt. 4,000 ft., Republic, Wash., No. 2362.

Thallus similar in color to that of the species, or gray-pruinose, or at times black. In our specimens the individual plants are small and the rugæ extend to the margins. I know of no previous American record for the form.

LECANORA (*Callopisma*) NIVALIS var. **minor** var. nov.

Thallus as in the species. Apothecia small (about 1 mm.) congregated, plane or slightly convex, disk orange or rusty-orange, without thalline border, but the proper margin distinct and lighter in color than the disk. Spores linear-oblong or narrow-ellipsoid, simple or with a thin central septum, 20 x 6–9 μ.

On mosses over rocks, Republic, Wash.

Differing from the species in color of the apothecia, shape and dimensions of the spores.

Type specimen in herb. Merrill.

LECANORA (*Squamaria*) RUBINA forma **discreta,** f. nov.

Thallus of widely scattered, monophyllous, peltate, olive-green, black-margined squamæ. Apothecia small, crowded, completely concealing the thallus, disk plane or concave, olive-green, glaucous-pruinose, with an entire, more or less flexuous, slightly elevated margin. Spores ovoid or ellipsoid, simple, 11 x 6–7μ, epithecium dark, asci sub-saccate.

On rocks, Republic, Wash.

Sharing characters with var. *peltata* Torsell, and *nigromarginata* of the species, the plant also presents similarities to *L. melanophthalma* (Ram.) Nyl. and its forma *glauca* (Ach.) Nyl.

Type specimen in herb. Merrill.

LECANORA ATRYNEA (Ach.) Nyl. Flora, 1872, p. 250, note 2.

On rocks touched by the waves of Hoods Canal, Hoodsport, Wash., No. 2131.

The habitat given for this specimen is exactly that of *L. subfusca campestris* as it occurs in Maine. Mr. Foster's specimen is without the white byssine hypothallus of the Knox County plant, and seems best placed as above. The species is almost unknown in this country.

LECANORA (*Dimelaena*) THYSANOTA (Tuck.) Hasse Lich. So. Calif., 1898, p. 11.

On granite, Republic, Wash., No. 2319a.

Spores eight in each ascus, short-ellipsoid, sometimes slightly constricted at the septum, brown 10–12 x 8–9μ, hymenium and hypothecium hyaline, paraphyses indistinct, epithecium brownish, asci ventricose.

Very little is known of this plant, and growing as it does among other dark colored lichens on exposed rocks, it is easily overlooked.

Reported from California and Oregon in Tuckerman's Synopsis, and Dr. Hasse has found it in his region.

LECANORA (*Rinodina*) CONRADI (Koerb.) Nyl. Not. Sallsk. pro F. et Fl. Fenn. Forh. XI, (1871), p. 182.

On mosses over rocks, Republic, Wash.

Spores oblong or blunt-fusiform, at first colorless, but brown with age, three-septate, the regular cells enclosing quadrate nucleoli, 33 x 12–18μ, hypothecium grayish, paraphyses distinct, discrete, the tips reddish, with the upper portion of the hymenium reddish downward.

Interesting as affording internal characters in complete accordance with those of the European plant. The thallus is comparable with that of *L. turfacea*, and wholly irreconcilable with that of the Californian plant described in Tuckerman's Synopsis, p. 210.

BIATORA CINNABARINA (Sommerf.) Fr. Lich. Eur. Ref., p. 266.

On bark of *Tsuga*. Mt. Ellinor, Wash., alt. 4,000 ft., No. 2107.

Spores oblong, 10–12 x 3–4μ.

Reported from British Columbia and Oregon, but almost unknown to our American collectors.

Biatora myriocarpella, sp. nov.

No visible thallus, but the fibres of the substratum afford hyphema, and nestling among the filaments, algae. Apothecia minute (about 0.25 mm.), very numerous, sessile, from flattish to strongly convex, immarginate, the disk from dark brown to more commonly blackish, scabrous and epruinose. Spores eight in each ascus, from ellipsoid to oblong, predominantly simple, but sometimes thinly septate, colorless, 8 x 4μ, hymenium and hypothecium hyaline, paraphyses gelatinous, the tips dark or purple, asci ventricose-clavate.

On cedar fence posts, Gate, Wash., No. 1987.

Comparable with *B. turgidula*, but the hypothecium colorless, the apothecia smaller and more abundant, and the spores discrepant.

Type specimen in herb. Merrill; co-type in Mr. Foster's collection.

Biatora (*Biatorina*) **pilularis** (Koerb.) comb. nov.

Thallus from white to sordid-whitish, thin, finely granulose, effuse, K—, C—. Apothecia small (about 0.3 mm.) adnate, soon convex or even sub-globose, yellowish-flesh or brick-red colored, without visible margin. Spores eight in each ascus, ellipsoid, colorless, one-septate, 7–10 x 3.5–4μ, hymenium and hypothecium hyaline, paraphyses distinct, compacted, wholly without color at the tips, asci ventricose-clavate, with the apical wall thick, hymenial gel. with I. + blue above, wine-red below.

On bark of aspen. Republic, Wash.

Spores smaller than in the recorded measurements for the European specimens, and more like those of *B. cyrtella*. New to America.

LECIDEA (*Buellia*) PAPILLATA Fr. Lich. Eur. Ref., p. 336.

On thin earth over rocks, Republic, Wash., No. 2299.

Spores oblong-ellipsoid, ellipsoid or blunt-fusiform, one-septate commonly, three-septate rarely, 30–40 x 11–15μ, hymenium colorless, hypothecium brown, paraphyses distinct, lax, tips brown, the asci ventricose with the apical wall very thick.

Remarkable for its excessively large spores. Previously recorded from Washington.

LECANACTIS ILLECEBROSA var. **megaspora**, var. nov.

Thallus whitish or white, thin, more or less pulverulent, K—, C—. Apothecium medium in size, from brown soon blackening, plane at first, then convex, or the larger ones umbonate, with a thin more or less persistent margin, disk naked or white-pruinose, the margin for the most part epruinose. Spores, eight in each ascus, fusiform, one–three septate, the cells regular, 28–33 x 5–6μ hymenium colorless, hypothecium brown, paraphyses distinct, tips dark, hymenial gel. with I. + wine-red.

On cedar bark, Near Elwha P. O., Wash., No. 1765.

Related to the species through its thin, apothecial margin, fusiform spores, color and consistency of thallus and reaction with Iodine. Differentiated in the color of its larger apothecia, and larger spores. Type specimen in herb. Merrill; co-type in Mr. Foster's collection.

OPEGRAPHA VARIA var. LUTESCENS Mudd Man., p. 230.

Thallus variously whitish or sordid. Apothecia as in the species, but with the margins greenish or yellowish-pruinose. Spores fusiform or with one end rounded, five septate, 25–29 x 7μ.

On maple bark, Renton, Wash., No. 2086. I know of no other record for this Country.

VERRUCARIA LAEVATA var. NIGRITA Leight. Li. Fl. G. Brit. ed. III, p. 449.

Thallus blackish, smooth, rimulose. Apothecia immersed in the thallus, only the apices visible, rather numerous and not large. Spores ellipsoid, simple, 14–23 x 7–10μ.

On rocks touched by the waters of Hoods Canal, Hoodsport, Wash., No. 2130. No previous record found for America.

ROCKLAND, MAINE.

NOTES ON NORTH AMERICAN SPHAGNUM. V

A. LEROY ANDREWS

The Section Acisphagnum Carl Müller

This large section shows, as already intimated, the greatest differentiation of structures: stem and perichaetial leaves, antheridial leaves, leaves of pendent branches, leaf-border, cortical cells of stem and branches, all mark the section as representing a higher stage of development than the preceding ones. That it embraces a greater number of species and that these, while varying much among themselves, present the most difficult problems of distinction and relationship is hardly to be wondered at. The most distinctive character of the section as a whole is the differentiation of retort-cells in the branch-cortex. It may be further noted that the antheridia are borne on catkin-like parts of the spreading branches with antheridial leaves usually pigmented red or brown according to the species, these leaves differing from the other branch-leaves frequently also in size and shape, in pores and particularly in that the hyaline cells of the lower part of the leaf lack pores and fibrils. The branch-leaves are regularly bordered, normally by two (sometimes more) rows of long narrow cells.